MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2019/2020

DSD5411 – SYSTEMS ANALYSIS AND DESIGN

(For Diploma students only)

3 MARCH 2020
9:00 a.m. – 11:00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This question paper consists of **3 pages**.
2. Answer **ALL** questions in **Section A** on the **Answer Booklet**.

SECTION A: 5 STRUCTURED QUESTIONS (50 MARKS)

*Instruction: Write **ALL** your answer in the answer booklet provided.*

QUESTION 1 [10 MARKS]

Table 1 below presents an IS (information system) project set of activities, its expected completion time (in weeks) and preceding activities.

Activity	Preceding Activity	Expected Time (ET)	Earliest Completion Time (T_E)	Latest Completion Time (T_L)	Slack Time (ST)
A	-	10			
B	A	7			
C	B	5			
D	C	13			
E	D	11			
F	B, C	7			
G	D, E	21			
H	A, F, G	3			

Table 1

a) Draw a network diagram for the IS project shown in *Table 1*. [3 marks]

b) For each activity, calculate its earliest completion time (T_E), latest completion time (T_L) and (ST) slack time. Copy and fill up the shaded area of the given table. [5 marks]

c) If activity F is delayed by 40 weeks, what impact will it have on the project duration? [1 mark]

d) Shade the critical path in the network diagram. [1 mark]

Continued...

QUESTION 2 [10 MARKS]

Assume a proposed system has a useful life of 5 years, one-time costs of RM 250,000, recurring costs of RM 80,000 per year, and tangible benefits of RM 175,000 per year. If the cost of capital is 12%, calculate the overall net present value (NPV) for this project.

[10 marks]

QUESTION 3 [10 MARKS]

Precision Tools sells a line of high-quality woodworking tools. The following are the basic processes of Precision Tools Order Entry System.

- When customers *place* orders on the company's Web site, the system checks to see if the items are in stock
- Warehouse will *update* the status of the request to the system.
- Once the status is updated, the system will *send* a status message to the customer and stores order data in the "Pending Orders" record.
- The system will *generate* a shipping order for the warehouse, which will fill the order and confirms shipping to the system.
- When the system receives shipping confirmation, it will *generate* an invoice and send it to the customer.
- Customer can make a *payment* and the status of the payment (accounting data) will be stored in the "Accounts Receivable Data" record.
- System *produces* inventory report for Accounting Department based on "Pending Orders" and "Accounts Receivable Data" records.

Based on the scenario above:

a) Draw a Context Diagram for Precision Tools Order Entry System (PTOES).

[2 marks]

b) Draw a Data Flow Diagram (level 0) for the system with general processes, data stores, date flows and sources/sinks.

[8 marks]

Continued...

QUESTION 4 [10 MARKS]

a) What are the main uses of decision tables in systems analysis? [1 mark]

b) Develop a simplified decision table based on the following scenario. [9 marks]

Below are the rules of *Online Membership Application* of a luxury retail shop.

- A staff will automatically be a member and is eligible for 20% discount on all non-sale items.
- A staff may also enjoy special discounts if he or she has worked for the company for more than 4 years.
- A customer (non-staff) may apply for membership by filling up an online form.
- If the customer makes a first purchase of RM 150 with the shop, registration is free. Otherwise, a registration fee of RM 20 is required.
- All registered customers can automatically enjoy customer's discount which is set at 10% on all non-sale items.

QUESTION 5 [10 MARKS]

a) Installation and documentation are major tasks in implementation phase.

i) Direct installation is a method of installation in which the old system is turned off and the new system is turned on. Give **THREE (3)** reasons why this method is probably the riskiest.

[3 marks]

ii) Explain briefly about system documentation and user documentation.

[2 marks]

b) What is configuration management? Explain each of the following term:

i) Baseline modules
ii) System librarian
iii) Build routines

[5 marks]

End of Pages